SORBENTS ON BASE OF THE NATURAL ZEOLITES FOR PURIFICATION OF THE WASTE LIQUID HYDROCARBONS FROM THE DIFFERENT ADMIXTURES

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The progress of chemical and petrochemical industry and the other branched of natural economy demands creation of the efficient inexpensive sorbents and catalysts. From this point of view, the crystalline aluminosilicates – natural and synthetically zeolites, present one of the promising materials. One of features of zeolites is that their structure enables one to carry out the purposeful modifying for obtaining the sorbents and catalysts with the given task.

The physical-chemical of adsorbents have been investigated by the roentgen diffractometric, derivatographic, infrared spectra. To establish the scientific grounds of preparation and application of the efficient adsorbents on base of the natural zeolites it is necessary to study a nature of the active centers of their adsorptive space, to find out the role of these centers in the processes of purification from the different substances.

As to the tasks of the individual studies they include formation of the adsorbents on base of the natural zeolites for the concrete industrial sorption processes. The results of purification of the waste toluene from ion of iron by clinoptilolite and its cation under static conditions show that with increase of ion radius of exchange cations the degree of purification and sorption volumetric capacity in relation to ion of iron decreases.

The results of study of purifying toluene from ions of iron under dynamic conditions show that in this case the most efficient is dienrose, lithium and potassium forms of clinoptilolite. It should be noted that extraction of ions of iron and water from the waste toluene by the sorbents obtained on base of clinoptilolite was repeated many times on the plant in successive cycles of adsorption – desorption under dynamic conditions. The observed good reproductivity of the results mean that the pointed zeolites can be used as adsorbents for extracting ions of iron a water from the waste liquid hydrocarbons.